

## Claims

1. A telemetry unit for a tyre monitoring apparatus, the telemetry unit including a housing having sensor means for measuring data relevant to the local environment of the telemetry unit, transmission means for transmitting measured data to a remote location, a  
5 piezoelectric power generator adapted to generate and store an electrical charge in response to rotation of the tyre for powering the unit, and control means for controlling the sensor means and transmission means, in which the control means is arranged to vary the rate of transmission of data from the telemetry unit in dependance on the rotary speed of the tyre.
- 10 2. A telemetry unit as claimed in claim 1, wherein the piezoelectric power generator is arranged to produce at least one pulse of electric charge for each rotation of the tyre, and the control means is adapted to monitor the number and/or frequency of the pulses generated in order to determine the appropriate rate of transmission of data.
3. A telemetry unit as claimed in claim 2, wherein the control means is adapted to initiate  
15 monitoring of the local environment and transmission of measured data after a predetermined number of pulses has been detected.
4. A telemetry unit as claimed in any of claims 1 to 3, in which the housing is adapted to be mounted to an inner wall of a tyre.
5. A telemetry unit as claimed in any preceding claim, in which an exterior surface of the  
20 housing has a substantially arcuate profile adapted for bonding to an arcuate interior surface of a vehicle tyre.
6. A telemetry unit as claimed in any preceding claim, in which an exterior surface of the housing includes an external profile for complimentary engagement with the internal

pattern of a vehicle tyre.

7. A telemetry unit as claimed in any of claims 1 to 4, in which the housing is releasably mounted on a footing adapted to be bonded to the internal wall of a tyre.
8. A telemetry unit as claimed in claim 7, in which the housing is releasably mounted on the  
5 footing by means of clips.
9. A telemetry unit as claimed in claim 7 or 8, in which the footing includes air channels for allowing movement of air about the housing, in use.
10. A telemetry unit as claimed in any preceding claim, in which the sensor means includes at least one of a pressure sensor and/or a temperature sensor.
- 10 11. A telemetry unit as claimed in any preceding claim, in which an actuator is movably mounted in the housing and adapted for contact with the piezoelectric element under centrifugal forces.